

## REMARKS/ARGUMENTS

Claims 2, 3, 5-8, 10-16, 18, 19 and 21-28 remain pending herein.

The Applicants thank Examiner Crepeau for the courtesies extended during a telephone interview conducted on December 23, 2003. The substance of the discussion during that interview is incorporated in the following remarks.

The claims are amended herein such that each of claims 18, 22, 24 and 26 ultimately depend from claim 6. Claim 20 is cancelled hereby. Accordingly, reconsideration and withdrawal of the objection to claims 18, 20, 22, 24 and 26 for their dependency from claim 1 are respectfully requested.

As noted above, claim 20 is cancelled hereby. Accordingly, reconsideration and withdrawal of the objection to claim 20 under 37 C.F.R. 1.75(c) are respectfully requested.

Claim 12 was rejected under 35 U.S.C. §112, first paragraph. The Office Action includes statements suggesting that the claims should recite a stress of *not* less than a constant amount will be applied to said elastic body. However, it is respectfully noted that the word "not" does not need to be inserted.

Original claim 12 recited "wherein said spacer is a ring member or a ring member having stopper structure in order that the stress *not* less than a constant amount will *not* be applied to said elastic body."

Claim 12 now recites that the spacer is a ring member, or a ring member having a stopper structure which prevents excessive stress from being applied to the elastic body. Therefore, claim 12 does not recite that the stress applied to the elastic body is *at least* a constant amount, but instead recites that the stress applied to the elastic body is *less than* a constant amount. In this respect, the attention of the U.S. Patent and Trademark Office is respectfully directed to Figs. 3 and 4. The spacer 26 without a stopper structure is shown in Fig. 3, and the spacer 26 with a stopper structure is shown in Fig. 4.

Reconsideration and withdrawal of this rejection are requested.

Claims 2, 3, 6, 7, 18-20, 22, 24 and 26 were rejected under 35 U.S.C. §103(a) over Japanese 10-162801 (JP '801) in view of European 895,297 (EP '297).

Claims 6 and 19 (from which the remaining claims listed in this rejection each ultimately depend) each recite a battery comprising an internal electrode body having positive and negative electrodes wound around a hollow winding core, a battery case containing the internal electrode body, an electrolyte solution contained in the case and contacting the

positive and negative electrodes, and electrode caps which seal the internal electrode body at both ends of the battery case. Claims 6 and 19 each further recite that the sectional area ( $S_2$ ) of the center hollow portion of the winding core is larger than  $0.3 \text{ cm}^2$ .

JP '801 discloses a secondary battery where an electrode structure body is wound in a spiral shape around a hollow winding core 13 and housed inside a battery case 1 where terminals are respectively arranged on both ends. As acknowledged in the September 24, 2003 Office Action (page 4, lines 10 and 11), JP '801 does not disclose or suggest that the area of the hollow portion of the winding core 13 is larger than  $0.3 \text{ cm}^2$ .

EP '297 discloses a lithium secondary battery which includes a battery case 63 and an internal electrode body 90 contained in the battery case and including a positive electrode 60 and a negative electrode 61 wound through a separator film 62. Opposing pressure release mechanisms are disposed at both ends of the battery case 63. The Office Action contains a statement that the battery of EP '297 comprises pressure release mechanisms having areas of larger  $0.1 \text{ cm}^2$ . EP '297 notes in page 5, lines 1-2 that it is preferable that an opening area of the pressure release mechanism is  $0.1 \text{ cm}^2$  or more. Referring to Fig. 1 of EP '297, a first seal ring 69 is stacked on the negative internal terminal 67, a metal foil 70 is stacked on the first seal ring 69 and a second seal ring 71 is overlapped on the metal foil 70 so that the metal foil 70 is sandwiched between the first seal ring 69 and the second seal ring 71, and a pressure release hole 72 is formed at the center of the metal foil (EP '297, page 6, lines 47-50). EP '297 further notes that the pressure release hole 72 bursts to release the internal pressure to the atmospheric pressure when the internal pressure of the battery is raised (EP '297, page 6, lines 52-53). The battery of EP '297 does not include a winding core, let alone a winding core having a center hollow portion which has a sectional area of larger than  $0.3 \text{ cm}^2$ . Accordingly, EP '297 fails to contain disclosure which would have suggested to one of skill in the art to provide the battery of JP '801 with a winding core having a center hollow portion sectional area of larger than  $0.3 \text{ cm}^2$ .

In addition, neither JP '801 nor EP '297 discloses or suggests the safety advantages provided by the present invention which result from ensuring that the area  $S_2$  is greater than  $0.3 \text{ cm}^2$ . This significant safety advantage is clearly demonstrated in the examples reported in the present specification, in particular by comparing the results of Example 4 (where the winding core's center hollow portion sectional area was  $0.38 \text{ cm}^2$ ) versus Comparative Example 2 where the area was only  $0.2 \text{ cm}^2$ .

Accordingly, in view of the above, reconsideration and withdrawal of this rejection are requested.

Claims 5 and 8 were rejected under 35 U.S.C. §103(a) over JP '801 in view of EP '297, further in view of U.S. Patent No. 5,571,632 (Teramoto '632). The Office Action contains statements that Teramoto '632 discloses an inner tube having a thickness of 2 mm and being made of aluminum. Accordingly, the statements made by the U.S. PTO with regard to Teramoto '632 do not relate to disclosure which would overcome the shortcomings of JP '801 and EP '297 as those references are attempted to be applied to claim 6, from which each of claims 5 and 8 depend. Accordingly, reconsideration and withdrawal of this rejection are requested.

Claims 9-12, 15, 16, 21, 23, 25, 27 and 28 were rejected under 35 U.S.C. §103(a) over JP '801 in view of EP '297, further in view of Japanese 11-049217 (JP '217).

Claim 9 has been cancelled, and amendments have been made to the claims such that each of the remaining claims listed in this rejection ultimately depends from claim 14, which has been rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicants acknowledge the indication in page 13 of the September 24, 2003 Office Action that claim 14 would be allowable if rewritten in independent form and if the obviousness-type double patenting rejection (discussed below) were overcome. Accordingly, reconsideration and withdrawal of this rejection are requested.

Claim 13 was rejected under 35 U.S.C. §103(a) over JP '801 in view of EP '297 and JP '217, further in view of U.S. Patent No. 6,355,372 (Yamahira '372). Claim 13 is amended as set forth above to depend from claim 14, the allowability of which has been confirmed (subject to the Terminal Disclaimer, discussed below) in the September 24, 2003 Office Action, page 13. Accordingly, reconsideration and withdrawal of this rejection are requested.

Claims 9-16, 21, 23, 25 and 27 were rejected under obviousness-type double patenting over claims 1-23 of U.S. Patent No. 6,468,692 (Nemoto '692) in view of JP '801.

Submitted herewith is a Terminal Disclaimer relative to Nemoto '692. The Terminal Disclaimer removes Nemoto '692 as a reference. Accordingly, reconsideration and withdrawal of this rejection are requested.

Claims 2, 3, 6, 7, 18-20, 22, 24 and 26 were rejected under obviousness-type double patenting over claims 1-53 of copending application serial no. 09/863,108 in view of EP '297.

In view of the provisional nature of this rejection, the Applicants wish to defer consideration of this rejection.

In view of the above, aside from the provisional obviousness-type double patenting rejection, claims 2, 3, 5-8, 10-16, 18, 19 and 21-28 are in condition for allowance.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

December 24, 2003

Date



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Enclosure: Terminal Disclaimer